

REMARKS

Entry of this amendment is respectfully requested.

The Examiner objects to the drawings for containing at least items 56 and 59-65, but these are disclosed at pages 7-10 of the English specification which discusses Figure 3.

Withdrawal of this objection is respectfully requested.

Furthermore, the amendment to claim 52 renders the objection to the drawings under 35 CFR 1.83(a) moot. Note that the forming method claimed with the designation “extrusion” in Claim 52. In German, Claim 1 of the PCT version, uses the term “Fließpressen”, which refers to pressing wherein the material in its flowable consistency adapts to the contour of the form. The designation “extrusion” has been amended accordingly.

Claim 32 was rejected under 35 U.S.C. §112, second paragraph, for allegedly being indefinite for allegedly failing to recite any direction for alignment. Applicants respectfully traverse.

Applicants refer the Examiner to page 3, lines 8-31 which are believed to clearly explain, at lines 8-12, that the fibers that constitute the essential element of the reinforcement are already arranged in such a way that they run in a direction in which the forces acting on the component take effect. At page 3, lines 18-20, it is taught that the “run of fibers is substantially adapted to the course of the loading to be expected”. Further explanation can be found later on that same page. Thus, withdrawal of this rejection is respectfully requested.

Page 3, lines 8-31 of the English translation describe what is meant by this phrase, and the claim has been amended accordingly.

Claims 52-59 were rejected under 35 U.S.C. §112, second paragraph, for allegedly being indefinite for reasons believed to be overcome by the amendments to the claims.

Claims 29-37, 39 and 40 were rejected under 35 U.S.C. §103(a) for allegedly being unpatentable over U.S. Patent No. 5,209,804 (“Trudeau”) in view of U.S. Patent No. 4,622,254 (“Nishimura”). Applicants respectfully traverse.

Nishimura discloses that mats are layered of plies of fibers which have orientations differing from one another, however these mats are not suitable for the succeeding flow-pressing. Those mats cannot even be subjected to such a method due to the sewing, since the seams would impede the deformation such that the mats would rip open.

Arbitrary cutting-to-size of these composite material webs, such as is disclosed in the citation Trudeau, would also not be possible due to the special sewing of the webs. As is evident based on the embodiment examples in Figures 10A to 10I, the mats remain non-deformed in the further processing. The structural components depicted here do not originate from mats pressed into form, but rather through a joining of several mats, which, while maintaining their thickness, are bent into the form of the structural component.

Trudeau relates to an integrated, automated composite material fabrication system for the pre-curing processing of pre-impregnated composite material. The pieces cut from the mats for a structural part such that they conform precisely to its contours, are placed at the end of the pretreatment process onto a so-called forming surface and adapted to this surface with the aid of vacuum pressure. The forming method thus is not a flow-press method. The composite material is conventional and already known from prior art, and has no unique features. Trudeau also fails to teach or suggest a special orientation of the fibers, for example matched to the loading. Thus reason, a person of skill in the art could not arrive at the subject matter of the presently claimed invention based on knowledge of the citations Nishimura and Trudeau. Withdrawal of this rejection is, therefore, respectfully requested.

Claims 38 was rejected under 35 U.S.C. §103(a) over the combination of Trudeau, Nishimura and U.S. Patent No. 4,294,639 (“Woelful”). Applicants respectfully traverse.

The deficiencies of the combination of Thoreau and Nishimura are discussed above. Woelfel does nothing to overcome these deficiencies.

Woelfel discloses the production of vehicle rims from resin mats. The Examiner asserts that since the use of randomly oriented fibers is not described by Nishimura and Trudeau for the structuring of mats, a person of skill in the art would on Woelfel where in the structuring of the mats randomly oriented fibers are also added. However, according to the presently claimed invention, the addition of randomly oriented fibers is only one development characteristic. The randomly oriented fibers can be added in addition to the fibers directed to the loading to be expected, as is explained in the specification. According to Woelfel, the contour of the structural component, the rim, is not cut from a web precisely conforming to the contour. The webs generated here are cut into pieces and must, as in conventional methods, be deposited by hand into different orientations. The Examiner is referred to column 2, lines 8 to 14, and column 4, lines 26 to 44 in this regard. With a method explained in conjunction with Figure 18, mats with intersecting fibers are produced. However, the orientation of the fibers at a specific crossing angle, as is evident based on the enlarged detail, takes place in view of the fiber fraction in the rim flange, as is evident in column 13, lines 12 to 23.

Thus, withdrawal of this rejection is respectfully requested.

Claims 52-59 were rejected under 35 U.S.C. §103(a) over Trudeau, Nishimura and U.S. Patent No. 3,881,978 to Livingston. Applicants respectfully traverse.

The deficiencies of Trudeau and Nishimura are discussed above.

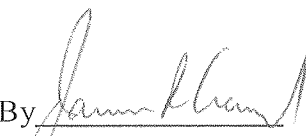
Livingston describes the production of a fire resistant resin mat. The continuous mat is wound for ageing under cover between two films. Nothing is disclosed about the fiber orientation. Livingston, in combination with the other cited references, also fails to lead one of skill in the art to the presently claimed invention, namely, to orient the fibers of a resin mat already during their production such that they are disposed in the direction in which subsequently the forces act onto this mat. Thus, withdrawal of this rejection is respectfully requested.

In view of the foregoing, allowance is respectfully requested.

The Commissioner is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 50-0624, under Order No. NY-DNAG-288-US.

Respectfully submitted

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